

a2
NO:1, SEQ ID NO:3, SEQ ID NO:5, SEQ ID NO:7 and SEQ ID NO:9 under conditions of 4 X SSC at 35°C.

a3
10. (Once Amended) An isolated nucleic acid molecule that hybridizes [under stringent conditions] to a fragment of any one of the nucleic acid molecules set forth in SEQ ID NO:1, SEQ ID NO:3, SEQ ID NO:5, SEQ ID NO:7 and SEQ ID NO:9, or to the antisense complement of any member of the group consisting of SEQ ID NO:1, SEQ ID NO:3, SEQ ID NO:5, SEQ ID NO:7 and SEQ ID NO:9 under conditions of 4 X SSC at 35°C. said fragment having a length of at least 15 bases.

a4
18. (Once Amended) A replicable expression vector comprising a nucleic acid sequence encoding secoisolariciresinol dehydrogenase that hybridizes to a sequence selected from the group consisting of SEQ ID NO:1, SEQ ID NO:3, SEQ ID NO:5, SEQ ID NO:7 and SEQ ID NO:9, or to the antisense complement of any member of the group consisting of SEQ ID NO:1, SEQ ID NO:3, SEQ ID NO:5, SEQ ID NO:7 and SEQ ID NO:9 under conditions of 4 X SSC at 35°C.

a5
22. (Once Amended) A method of enhancing the expression of secoisolariciresinol dehydrogenase protein in a suitable host cell comprising introducing into the host cell an expression vector that comprises a nucleotide sequence[encoding a protein having the biological activity of a secoisolariciresinol dehydrogenase protein having the amino acid sequence set forth in any one of SEQ ID NO:2, SEQ ID NO:4, SEQ ID NO:6, SEQ ID NO:8 and SEQ ID NO:10] that hybridizes to the antisense complement of any member of the group consisting of SEQ ID NO:1, SEQ ID NO:3, SEQ ID NO:5, SEQ ID NO:7 and SEQ ID NO:9 under conditions of 4 X SSC at 35°C.

23. (Once Amended) A method of modifying the expression of secoisolariciresinol dehydrogenase protein in a suitable host cell comprising introducing into the host cell an expression vector that comprises a nucleotide sequence that expresses an RNA that hybridizes